Lecture (1)

System Analysis & Design

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Introduction to SAD

- **Systems analysis and Design is:**

A problem solving technique that decomposes a system into its component pieces for the purpose of the studying how well those component parts work and interact to accomplish their job or to improve organizational systems.

- **The analysis and design of information systems are based on**:
  - Your understanding of the organization's objectives, structure, and processes.
  - Your knowledge of how to use information technology for advantage.

- **The need of system analysis and design :**
  - Understand humans need.
  - Analyze data input or data flow systematically, to put information in the prober context.
  - Improve the efficiency of an organization by using computerized information systems.

Systems Analyst

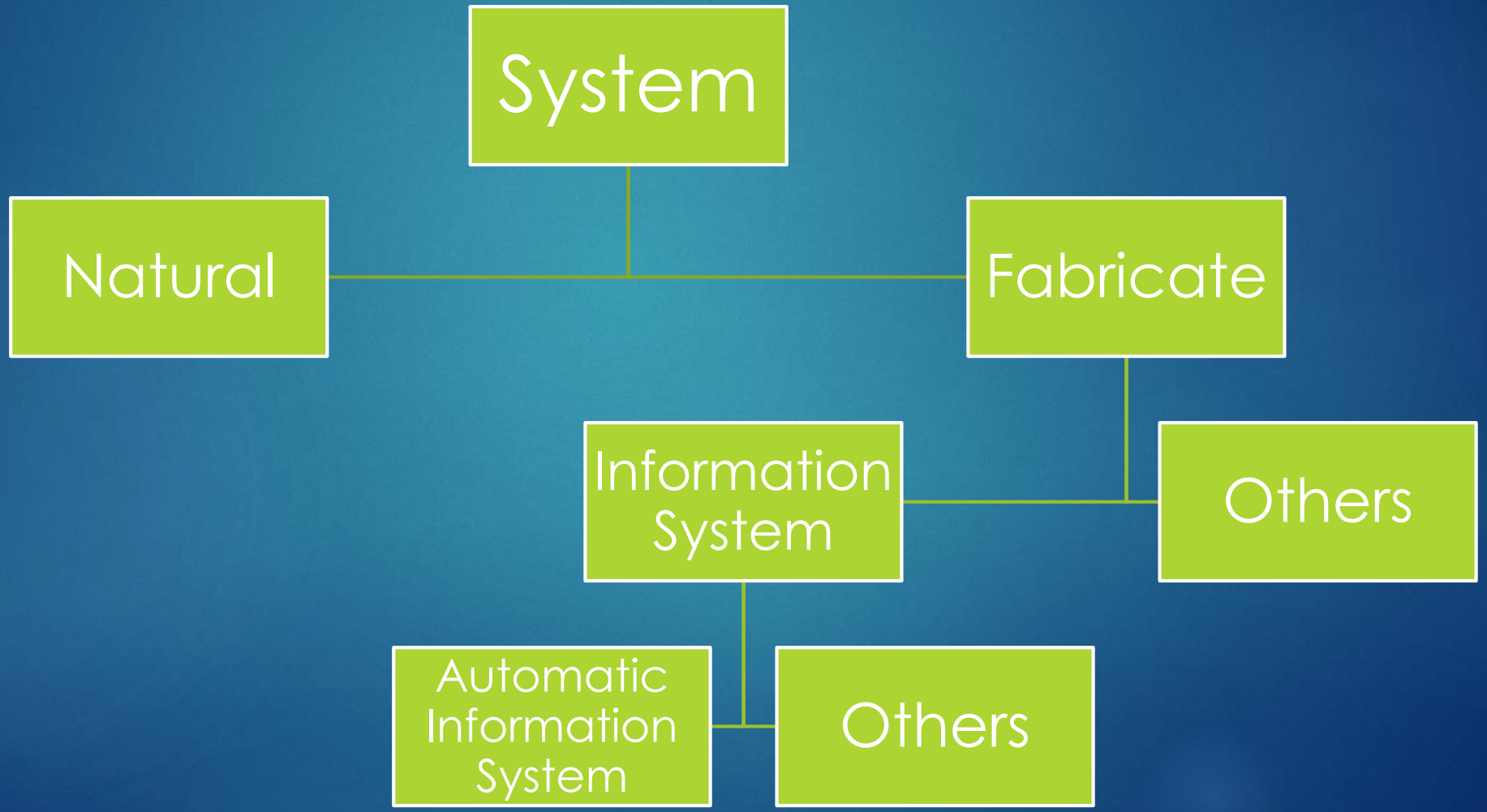
- A title given to a person who studies the problems and needs of an organization looking for improvement opportunities, system analyst can be :
- A **Consultant:** to address information systems issues within a business or organization.
- A **Supporting Expert:** not managing the project but serving as a resource for those who are.
- An **Agent of Change:** The most responsible role, Your presence in the business changes it !

Qualities of the Systems Analyst:

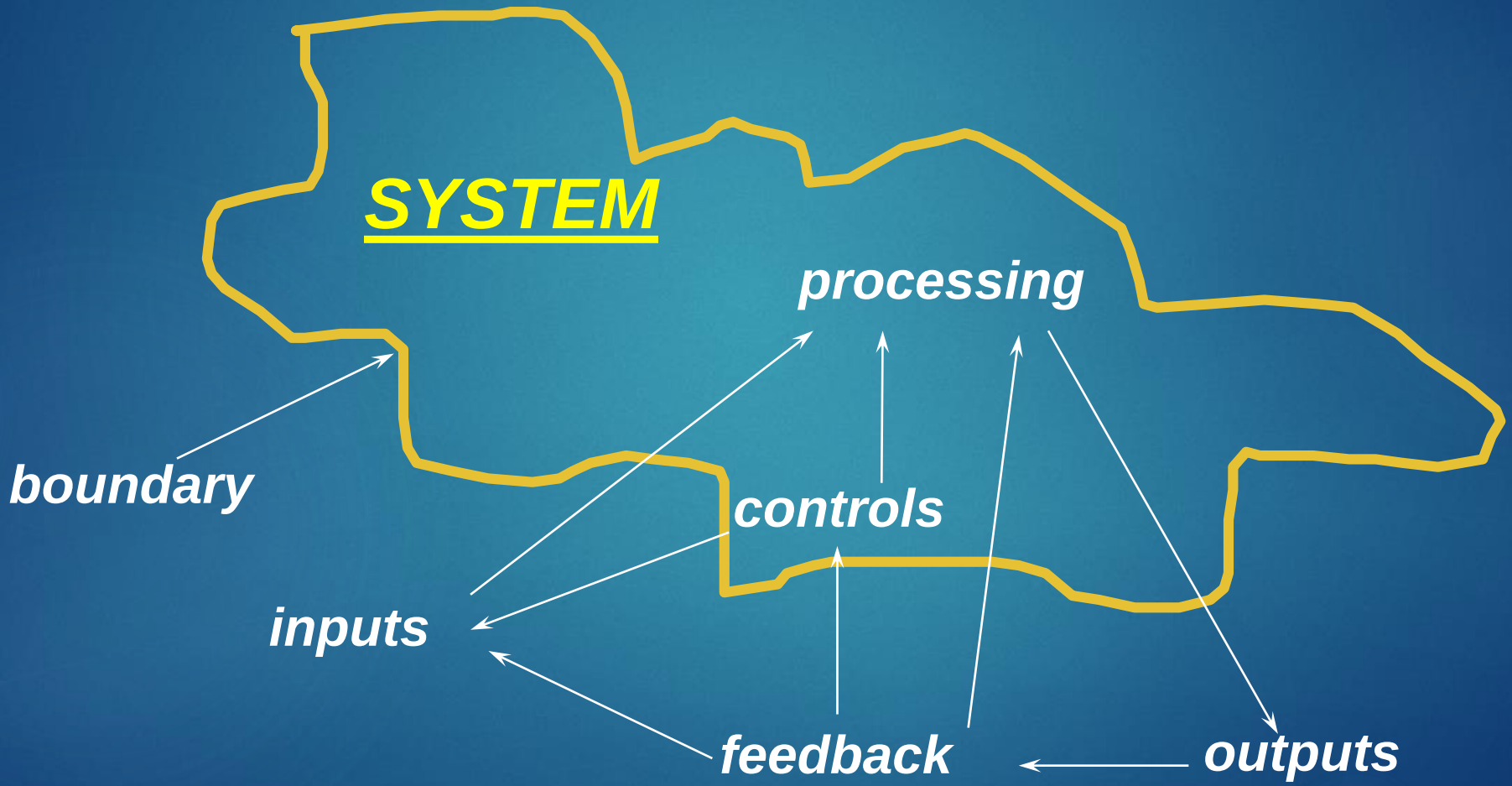
Problem solver, understand humans' needs, in interacting with technology, good communicator with people, strong personal and professional ethics, self-disciplined, and motivated…etc

What's the meaning of System?

- A SYSTEM is a set of interrelated components working together for a common purpose.



A Generic System Model (with Six Components)

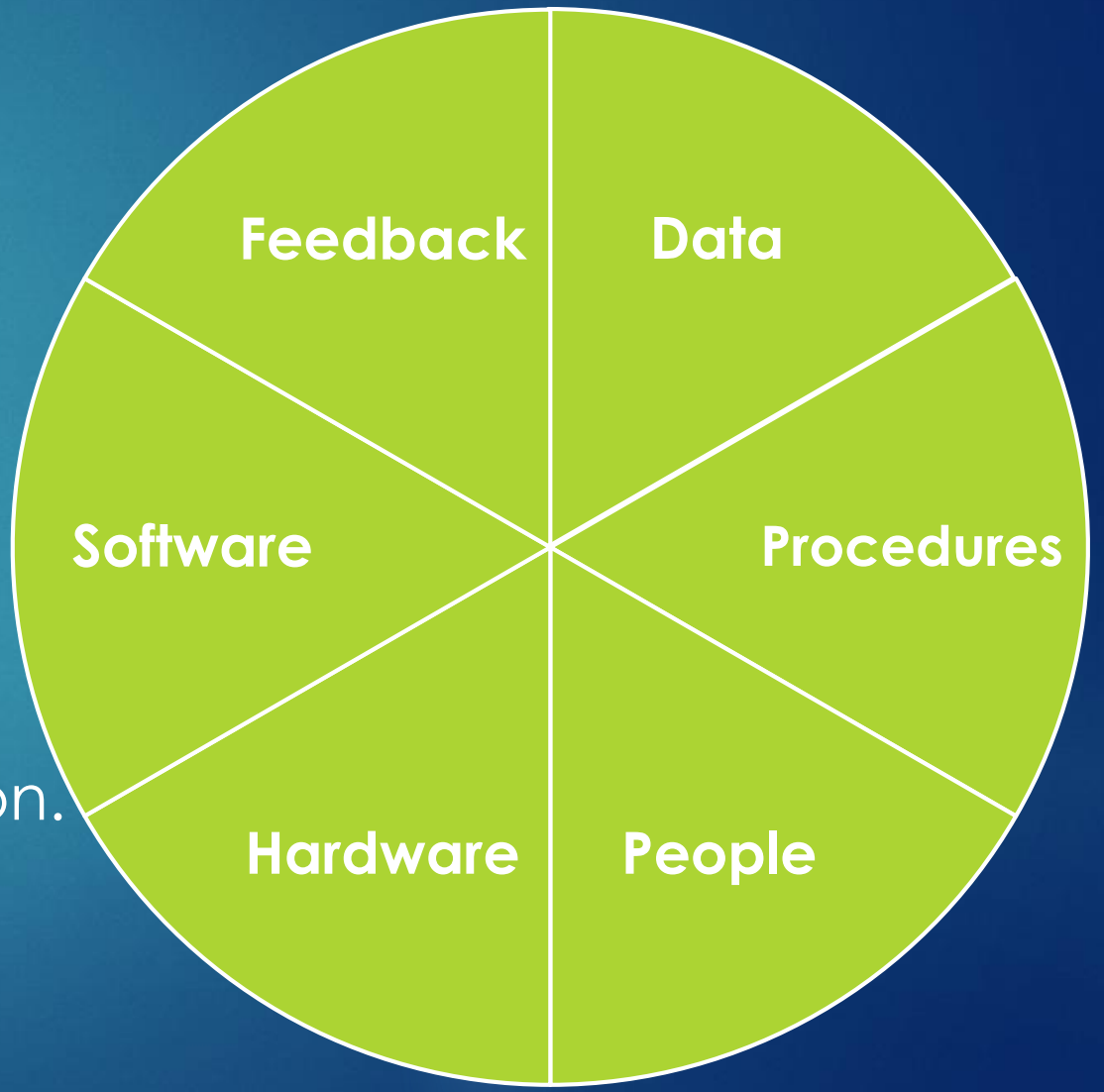


Information System:

An Information system is:

- a type of fabricated system.
- used by one or more persons .
- to help them accomplish some task or assignment they have.

An information system is any organized system for the collection, organization, storage and communication of information.



Types of Information Systems:

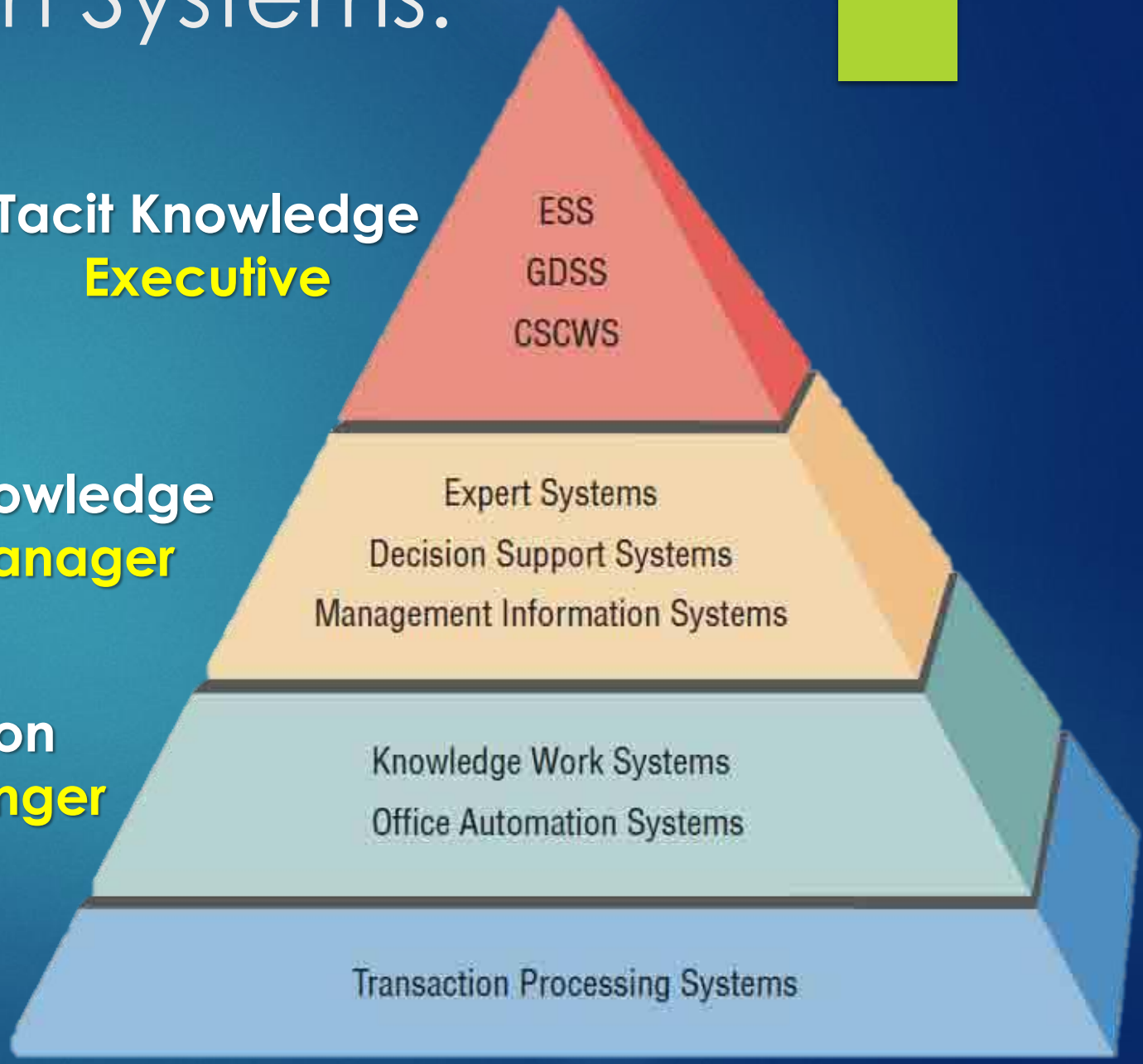
- Information systems (IS) are developed for different purposes, depending on the needs of human users and the business.

Tacit Knowledge
Executive

Explicit Knowledge
Senior Manager

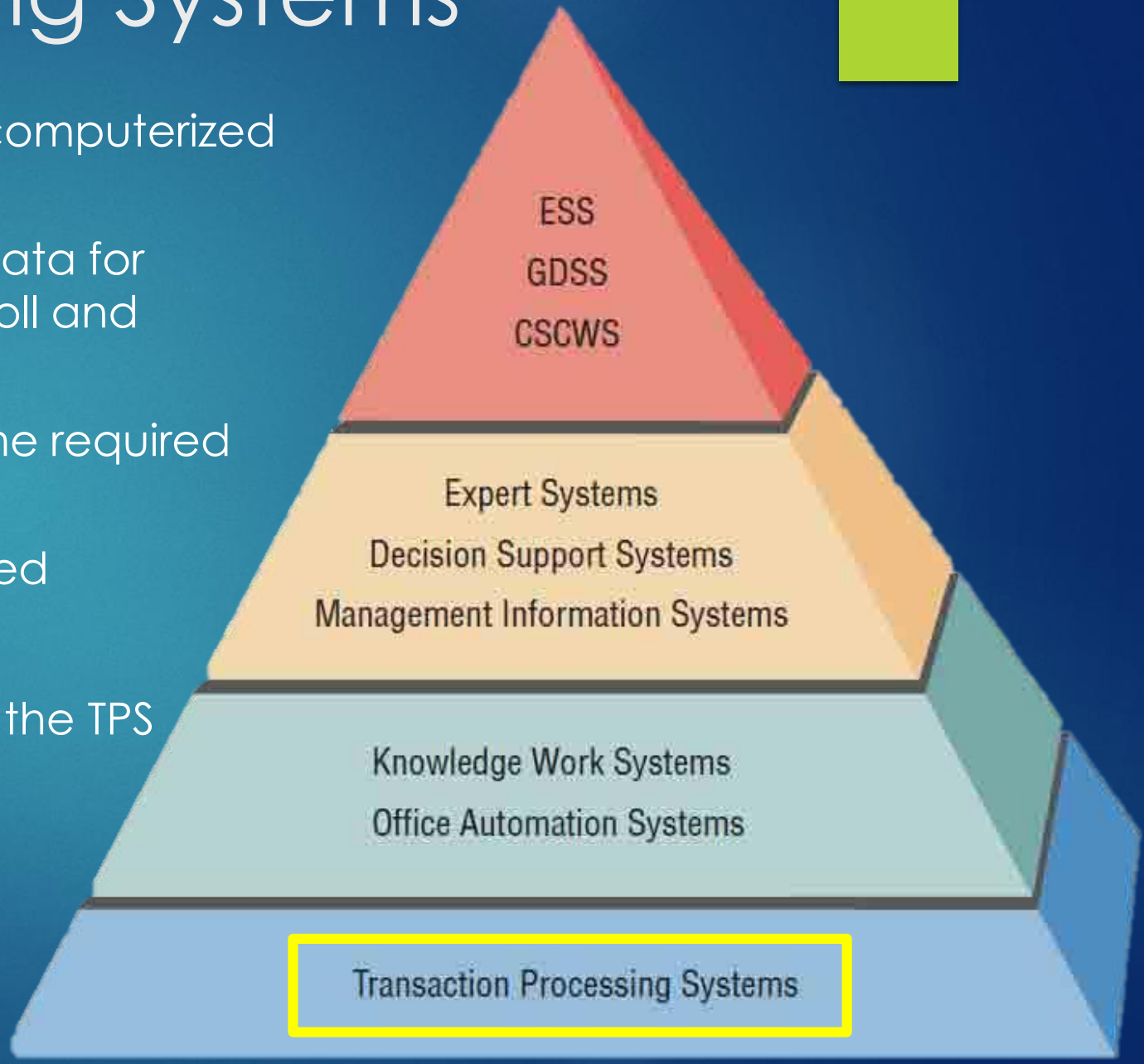
Information
Middle Manger

Data
Worker



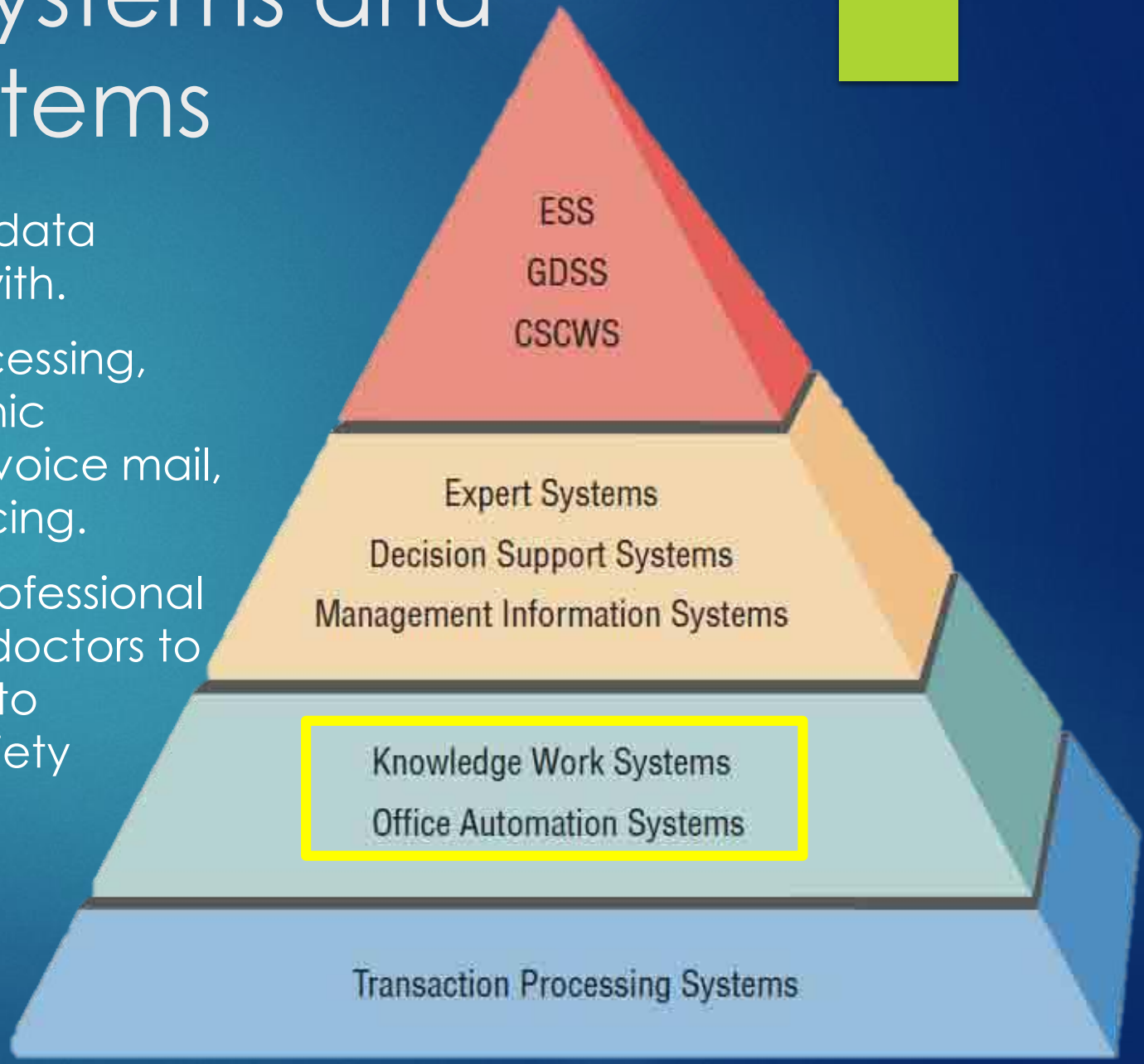
Transaction Processing Systems

- Transaction processing systems (TPS) are computerized information systems.
- Developed to process large amounts of data for routine business transactions such as payroll and inventory.
- Eliminates the tedium and reduces the time required to perform a task manually.
- People must still input data to computerized systems.
- Managers look to the data generated by the TPS for up-to-the-minute information.
- Essential to the day-to-day operations

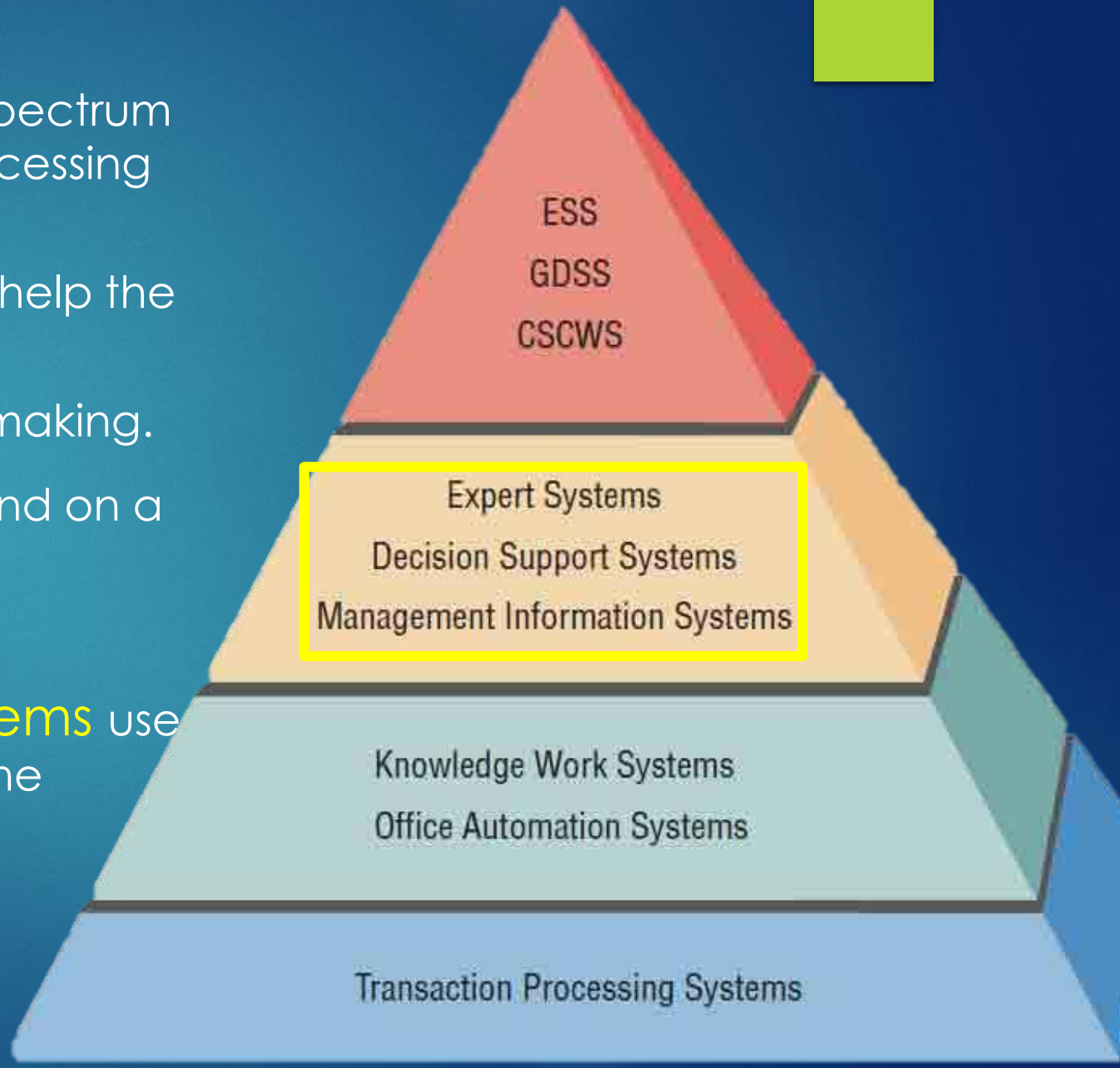


Office Automation Systems and Knowledge Work Systems

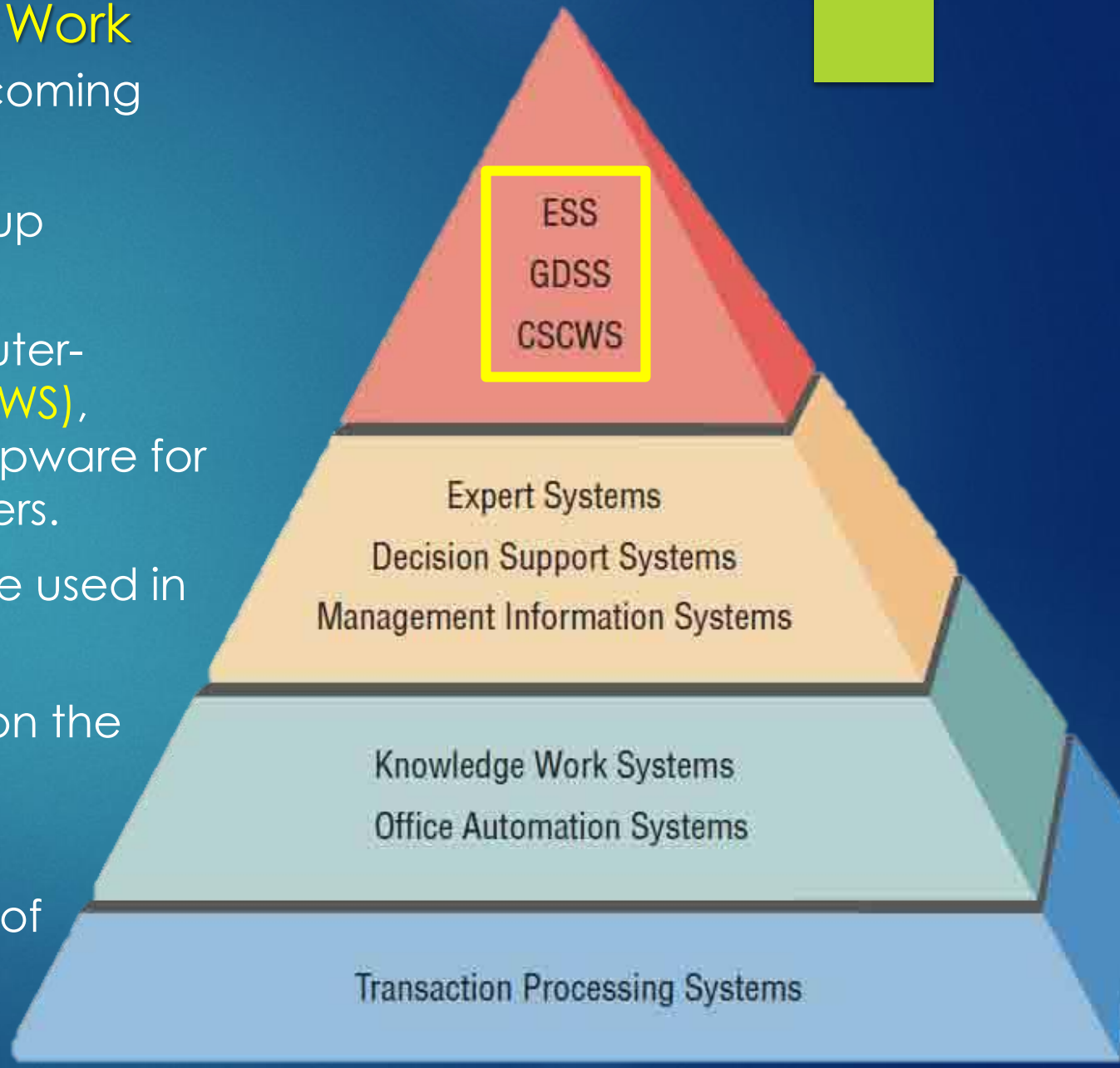
- Office automation systems (OAS) support data workers, and analyze it, before sharing it with.
- Familiar aspects of OAS include word processing, spreadsheets, desktop publishing, electronic scheduling, and communication through voice mail, email (electronic mail), and teleconferencing.
- Knowledge work systems (KWS) support professional workers such as scientists, engineers, and doctors to create new knowledge by allowing them to contribute it to their organization or to society at large.



- Management Information Systems (MIS) By requiring people, software, and hardware to function in concert.
- Support users in accomplishing a broader spectrum of organizational tasks than transaction processing systems.
- The database stores data and models that help the user interact with.
- Output information that is used in decision making.
- Decision Support Systems (DSS) depend on a database as a source of data.
- Emphasizes the support of decision making.
- Artificial Intelligence and Expert Systems use the approaches of (AI) reasoning to solve the problems put to.
- Choose the best decision to take.
- Connecting user with system by processing queries such (SQL), and the user interface.



- Group Decision Support Systems (GDSS) & Computer-Supported Collaborative Work Systems (CSCWS) Organizations are becoming increasingly reliant on groups or teams.
- (GDSS) systems are intended to bring a group together to solve a problem.
- Sometimes GDSS are discussed term computer-supported collaborative work systems (CSCWS), which include software support called groupware for team collaboration via networked computers.
- Group decision support systems can also be used in a virtual setting.
- Executive Support Systems (ESS) rely on the information generated by TPS and MIS.
- ESS extend and support the capabilities of executives, permitting them to make sense of their environments.



Where are we heading to?

Thank you, and all your questions are welcomed.